IN THE CLAIMS:

1. (CURRENTLY AMENDED) A method of operating a switch for frames in a computer network, comprising:

receiving a frame (~~the~~ received frame) at a port of said switch, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

accessing a virtual local area network (VLAN) value associated with the port;

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~ and said VLAN value, said derived VLAN value for use internal to said switch;

accessing a forwarding data base with said derived VLAN value to determine a destination address; and,

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address.

2. (CURRENTLY AMENDED) The method of claim 1 further comprising, said forwarding step forwarding in response to said derived VLAN value and said destination address.

3. (CANCELLED)

4. (CURRENTLY AMENDED) The method of claim 1 wherein said indicia of frame type ~~designation~~ further comprises:

a subnet value.

5. (CANCELLED)

6. (CURRENTLY AMENDED) The method of claim 1 wherein said indicia of frame type ~~designation~~ further comprises: an IP source address.

7. (CURRENTLY AMENDED) The method of claim 1 wherein said indicia of frame type ~~designation~~ further comprises:

an index value associated with a port at which said received frame was received.

8. (ORIGINAL) The method of claim 1 further comprising:

deriving a MAC address from said derived VLAN value and forwarding said received frame to a port for transmission to a destination having said MAC address.

9. (CURRENTLY AMENDED) An apparatus ~~switch~~ to forward frames in a computer network, comprising:

a port to receive a frame (~~the~~ received frame), said port associated with a virtual local area network (VLAN) value, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

a parsing engine to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~ and said VLAN value, said derived VLAN for use internal to said switch;

a forwarding data base configured to use ~~having~~ said derived VLAN value as an input and to yield a destination address as an output; and,

an output port to transmit said received frame, in response to said derived VLAN value, ~~for transmission~~ to said destination address.

10. (ORIGINAL) The apparatus as in claim 9 further comprising:

a forwarding engine for forwarding said received frame in response to said derived VLAN value and said destination address.

11. (CURRENTLY AMENDED) A computer readable media containing instructions for the practice of operating a switch for frames in a computer network, comprising:

receiving a frame (~~the~~ received frame) at a port of said switch, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

accessing a virtual local area network (VLAN) value associated with the port;

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~ and said VLAN value, said derived VLAN value for use internal to said switch;

accessing a forwarding data base with said derived VLAN value to determine a destination address; and,

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address.

12. (CANCELLED)

13. (CURRENTLY AMENDED) A method of operating a switch for frames in a computer network, comprising:

using one or more indicia of frame type ~~designation~~ found in a received frame to derive a virtual local area network (derived VLAN) value, said derived VLAN value used

internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch; and

using the derived VLAN value in making forwarding decisions.

14. (ORIGINAL) The method of claim 13 further comprising:

controlling broadcast domains in the computer network by forwarding in response to the derived VLAN value.

15. (PREVIOUSLY PRESENTED) The method of claim 13 further comprising:

using an indicia of a receiving port in constructing the derived VLAN value.

16. (CURRENTLY AMENDED) A computer readable media containing instructions for the practice of operating a switch for frames in a computer network, comprising:

using one or more indicia of frame type ~~designation~~ found in the received frame to derive a virtual local area network (derived VLAN) value, said derived VLAN used internal to said switch, said derived VLAN value different from a VLAN value associated the frame external to the switch; and

using the derived VLAN value in making forwarding decisions.

17. (CANCELLED)

18. (CURRENTLY AMENDED) A method of operating a switch for frames in a computer network, comprising:

receiving a frame (~~the~~ received frame) at a port of said switch, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

accessing a port index value associated with the port;

deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~ and said port index value;

accessing a forwarding data base with said derived VLAN value to determine a destination address; and,

forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination address.

19. (CURRENTLY AMENDED) An apparatus ~~switch~~ to forward frames in a computer network, comprising:

a port to receive a frame (~~the~~ received frame), said port associated with a index value, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

a parsing engine to derive a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~and said index value;

a forwarding data base ~~having~~ configured to use said derived VLAN value as input and to yield a destination address as output; and,

an output port to transmit said received frame, in response to said derived VLAN value, ~~for transmission~~ to said destination address.

20. (CURRENTLY AMENDED) An apparatus to forward frames in a computer network, comprising:

means for receiving a frame (~~the~~ received frame) ~~at a port of said switch~~, said received frame containing one or more indicia of frame type ~~designation~~, said one or more indicia of frame type including an indicia of a protocol type;

means for accessing a index value associated with the means for receiving a frame;

means for deriving a virtual local area network (derived VLAN) value in response to said one or more indicia of frame type ~~designation~~ and said index value;

means for accessing a forwarding data base with said derived VLAN value to determine a destination address; and,

means for forwarding, in response to said derived VLAN value, said received frame to an output port for transmission to the destination.

21-23. (CANCELLED)

24. (NEW) The method of claim 1 wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type;

combining the protocol code with the VLAN value to produce a mapping address; and

accessing a memory structure with the mapping address to obtain the derived VLAN value.

25. (NEW) The method of claim 1 wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type.

26. (NEW) The apparatus as in claim 9 further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code; and

wherein the parsing engine is configured to combine the protocol code with the VLAN value to produce a mapping address and to access a memory structure with the mapping address to obtain the derived VLAN.

27. (NEW) The apparatus as in claim 9 wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type.

28. (NEW) The method of claim 18 wherein the step of deriving further comprises:

generating a protocol code from the indicia of protocol type;

combining the protocol code with the index value to produce a mapping address; and

accessing a memory structure with the mapping address to obtain the derived VLAN.

29. (NEW) The method of claim 18 wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type.

30. (NEW) The apparatus as in claim 19 further comprising:

a protocol mapping table to map the indicia of protocol type to a protocol code; and

wherein the parsing engine is configured to combine the protocol code with the index value to produce a mapping address and to access a memory structure with the mapping address to obtain the derived VLAN.

31. (NEW) The apparatus as in claim 19 wherein the indicia of protocol type indicates an Internet Protocol (IP) protocol type.